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10/593,511	08/14/2008	Hiroyuki Kodama	15596-000001/US/NP	1685
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HARNESS, DICKEY & PIERCE, P.L.C.			FONTENOT, NIGEL RAI	
P.O. BOX 828			ART UNIT	PAPER NUMBER
BLOOMFIELD HILLS, MI 48303			3768	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/593,511	Applicant(s) KODAMA ET AL.	
	Examiner NIGEL FONTENOT	Art Unit 3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is responsive to the Arguments/Amendments filed August 11, 2009.

Claims 1-10 have been amended. Claims 1-10 are still pending.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-10 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 1 recites "a probe having a plurality of ultrasonic oscillators for oscillating ultrasonic waves toward a wall surface of a bladder, which is adhesively placed over a body surface in an abdominal section such that a lower end of said probe is aligned with an upper end of the pubic bone via an ultrasonic wave transmission medium interposed therebetween". Claim 1 positively recites and claims a part of the human body; and therefore it is directed to non-statutory subject matter.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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3. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claim 1 recites the limitation "the pubic bone" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Ganguly et al. (US 6565512).
7. Addressing claim 1, Ganguly discloses an ultrasonic urinary volume sensor (see fig. 1 and abstract) comprising: a probe having a plurality of ultrasonic oscillators for oscillating ultrasonic waves toward a wall surface of a bladder, which is adhesively placed over a body surface in an abdominal section such that a lower end of said probe is aligned with an upper end of the pubic bone via an ultrasonic wave transmission medium interposed therebetween (see col. 8 lines 17-26 and fig. 1); and a processing section for detecting and processing reflective echoes of the ultrasonic waves from said

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wall surface of the bladder, which have been oscillated by said plurality of ultrasonic oscillators of said probe (see col. 3 line 64-col. 4 line 42), wherein said plurality of ultrasonic oscillators are disposed on said probe such that said plurality of ultrasonic oscillators are aligned along a direction of a head when said probe is placed over the body surface in the abdominal section (see col. 8 lines 17-26 and fig. 1); and said processing section comprises: a hardware section electrically connected to said plurality of ultrasonic oscillators, which excites said plurality of ultrasonic oscillators to cause said plurality of ultrasonic oscillators to oscillate the ultrasonic waves and detects reflective echoes of the ultrasonic waves from the wall surface of the bladder (see fig. 1, abstract, col. 4 lines 19-50 and, col. 6 lines 45-67); and a CPU section electrically connected to said hardware section (see fig. 1), which is operable for: detecting an ultrasonic wave echo peak (P_i) reflected by a posterior wall of the bladder from the reflective echoes detected by said hardware section (see col. 4 lines 19-50 and col. 6 line 45-col. 7 line 4); executing a multiplication of the detected ultrasonic wave echo peak (P_i) by a distance (D_i) between an anterior wall and the posterior wall of the bladder that can be specified from said ultrasonic wave echo peak (P_i) for each one of said plurality of ultrasonic oscillators; executing an addition of respective values from the multiplications to determine a measured indicator value (PD) (see col. 5 lines 37-65, col. 6 lines 38-55, and col. 7 lines 5-60); calculating a corrected indicator value by executing a multiplication of said measured indicator value (PD) by a coefficient corresponding to a difference among individuals based on their anatomical structures and a specific posture during the measurement (see col. 5 lines 37-65, col. 6 lines 38-

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55, and col. 7 lines 5-60); calculating an average indicator value by performing an average processing on a plurality of said corrected indicator values obtained in time series (see col. 5 lines 37-65, col. 6 lines 38-55, and col. 7 lines 5-60); and estimating a urinary volume in the bladder based on the average indicator value (see col. 5 lines 37-65, col. 6 lines 38-55, and col. 7 lines 5-60).

8. Addressing claims 2-9, Ganguly discloses the average processing comprises a processing for calculating an average value that is an intermediate value among the plurality of corrected indicator values obtained in time series (see col. 5 lines 37-65, col. 6 lines 38-55, and col. 7 lines 5-60), the average processing further comprises a moving average processing to be performed on a plurality of the average values obtained in time series (see col. 5 lines 20-51 and col. 7 lines 5-60), said hardware section comprises a low noise amplifier, an A/D converting circuit, a waveform memory, a timing generating circuit and an ultrasonic oscillator exciting circuit (see abstract, fig. 1, col. 4 lines 7-32, and col. 5 lines 20-51), said CPU section comprises a gain control section for controlling a gain of said low noise amplifier, and an amplification factor for said low noise amplifier that is automatically controlled by said gain control section (see col. 5 lines 20-51 and col. 7 lines 5-60), said CPU section comprises a real-time clock for outputting a signal at each predetermined timing, and said CPU section controls said hardware section in response to said signal output from said real-time clock (see abstract and fig. 6), further comprising, a detachable storage medium, wherein said CPU section is electrically connected to said detachable storage medium (see fig. 1 and

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col. 8 lines 27-51), further comprising, a wireless data communication function, wherein said CPU section is electrically connected to said wireless data communication function (see fig. 6 and col. 8 lines 37-51), said probe comprises a posture recognition sensor (see col. 2 lines 17-30 and col. 4 lines 19-31).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ganguly et al. (US 6565512) as applied to claim 5, in view of Hashimoto et al. (US 2002/0091326).

12. Addressing claim 10, Ganguly does not specifically disclose a triaxial acceleration sensor. However, Hashimoto discloses a system that uses a triaxial acceleration sensor to determine posture and inclination of a human body (see paras

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416 and 509). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Ganguly by incorporating the triaxial acceleration sensor, as disclosed by Hashimoto, to determine posture and inclination of the human body to facilitate placement and operation of Ganguly's transducer on the human body since the bladder can shift for different positions.

Response to Arguments

13. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection. Ganguly discloses detecting echo peaks reflected from a posterior wall of a bladder, as shown in fig. 1. Ganguly multiplies these peaks using the coordinates of the back wall. Ganguly adds these values to determine a value. Ganguly repeats this process for all the remaining planes. Ganguly then sums these values and weights each one by a constant. This constant is based on the angle of the plane. Ganguly then calculates the volume of the bladder by summing these.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIGEL FONTENOT whose telephone number is (571)270-7032. The examiner can normally be reached on Monday-Friday (7:00a-4:00p).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. F./

Examiner, Art Unit 3768

/Long V Le/

Supervisory Patent Examiner, Art Unit 3768